

**REMARKS**

The present application includes claims 1-22. By this Amendment, claims 1 and 12 have been amended.

Claims 1-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Mazess et al., U.S. Pat. No. 6,438,201 (“Mazess”) in view of Dhawale et al., U.S. Pat. No. 6,879,660 (“Dhawale”).

The Applicant now turns to the rejection of claims 1-22 under 35 U.S.C. 103(a) as being unpatentable over Mazess in view of Dhawale. The Applicant respectfully submits that neither Mazess nor Dhawale, alone or in combination, teaches or suggests the entirety of the limitations recited in the pending claims for at least the reasons discussed below.

The Applicant previously discussed shape artifacts due to scintillator hysteresis and reproduces that discussion here for convenience. As discussed in the Background section of the present application, a shape artifact may appear in an image as a “ghost” of a previous x-ray exposure. Such artifacts occur in areas of increased signal levels in a scintillator of an x-ray detector. The increased signal levels are the result of areas with trapped charge. That is, electrical charge becomes stored in areas of the scintillator. The trapped charge fills up the trapping centers in the scintillator resulting in an increase of the image signal or gain of the scintillator. This increase in the gain of the scintillator is known as hysteresis.

As acknowledged in the Office Action mailed November 14, 2007 (“the Office Action”) at page 3 and as discussed in prior responses, Mazess does not teach or suggest at least detecting a shape artifact due to scintillator hysteresis. In addition, the Applicant respectfully submits that

Mazess also does not teach or suggest a shape artifact resulting from an area of trapped electrical charge in a scintillator.

Dhawale generally relates to “a process for adapting a gain calibration map in an X-ray image to reduce or eliminate artifacts,” as stated at col. 1, lines 14-17. Dhawale states at col. 1, lines 44-49 that artifacts may be introduced into an image through factors such as “non-uniformity in scintillator thickness, variations in read-out electronics, tube flux distribution, and inhomogeneities in the cover material overlaying the scintillator.” At col. 2, lines 52-63, Dhawale states that:

[t]he present technique provides a novel approach to minimizing or eliminating image artifacts resulting from detector specific variations which produce spectrum sensitive gain responses. In particular, variations in the scintillator thickness, particularly around the edge of the detector may produce spectrally sensitive gain responses. In addition, during the deposition of the scintillator, particulates of CsI may be deposited which can also introduce abrupt variations in gain calibration maps that are spectrally dependant. The present technique addresses these spectrum specific non-uniformities to provide gain correction over the entire image, including the image edges and CsI particulates.

As noted by the Office Action at page 3, Dhawale states at col. 8, lines 63-66 that “[a]n alternative technique for correcting spectrally-sensitive artifacts due to scintillator thickness variations uses the acquired image 106, as depicted in FIG. 6, to correct known trends at the edge of the detector 22.”

Dhawale makes no mention of scintillator hysteresis or the detection of shape artifacts due to scintillator hysteresis, as described above. In addition, Dhawale makes no mention of a shape artifact resulting from an area of trapped electrical charge in a scintillator, as described above. Rather, as is made clear above, Dhawale discusses adapting a gain calibration map to reduce or eliminate artifacts resulting from detector specific variations which produce spectrum sensitive gain responses.

Independent claims 1 and 12 have been amended to further clarify a shape artifact due to scintillator hysteresis and now recite that the “shape artifact results from areas of trapped electrical charge stored in a scintillator” to clarify what is being detected. As discussed above, neither Mazess nor Dhawale, alone or in combination, teach or suggest detection of “a shape artifact from a prior image due to scintillator hysteresis, wherein said shape artifact results from an area of trapped electrical charge in a scintillator” as is recited in amended claims 1 and 12. In fact, neither Mazess nor Dhawale mentions shape artifacts or scintillator hysteresis as described above. Therefore, the Applicant respectfully submits that independent claims 1 and 12 should be allowable over the cited art of record.

Claims 2-11 and 13-22 depend from independent claims 1 and 12, respectively. The Applicant respectfully submits that because claims 1 and 12 should be allowed for at least the reasons discussed above, claims 2-11 and 13-22 should also be allowed.

**CONCLUSION**

If the Examiner has any questions or the Applicant can be of any assistance, the Examiner is invited and encouraged to contact the Applicant at the number below.

The Commissioner is authorized to charge any additional fees or credit overpayment to the Deposit Account of GTC, Account No. 070845.

Respectfully submitted,

January 31, 2008

/Adam J. Faier/

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